

WHAT IS CLAIMED IS:

1. An optical writing system, comprising:
 - at least two laser diodes;
 - a polygonal mirror;
 - 5 a first correction mechanism configured to
 - scan data of two laser diodes by one scanning movement
 - with said polygonal mirror, and
 - correct a dot forming position of a terminating edge in a
 - main scanning direction by shifting arbitrarily a phase of a
 - 10 picture element clock; and
 - a second correction mechanism configured to correct an
 - amount of deviation in a data writing position along a vertical
 - scanning direction to be approximately one laser diode line
 - width; wherein
 - 15 said first correction mechanism is configured to be started by
 - a first mechanism exterior to said optical writing system.
2. The optical writing system according to claim 1,
wherein:
 - 20 said second correction mechanism is configured to be started
 - by a second mechanism exterior to said optical writing system.
3. The optical writing system according to claim 2,
wherein said second correction mechanism is configured to be
25 stopped by said second mechanism exterior to said optical writing
system.

4. The optical writing system according to claim 2,
wherein said first correction mechanism and said second
correction mechanism are configured to be controlled separately
from each other.

5

5. The optical writing system according to claim 1,
wherein said first correction mechanism is configured to be
stopped by said first mechanism exterior to said optical writing
system.

10

6. The optical writing system according to claim 1,
wherein said operation of shifting arbitrarily a phase of a picture
element clock is carried out based on a scaling error factor of said
at least two laser diodes.

15

7. The optical writing system according to claim 6,
wherein the scaling error factor is selectively input through an
external input operation mechanism.

20

8. An optical writing system, comprising:
at least two laser diodes;
a polygonal mirror;
a first correction mechanism configured to

25

scan data of said at least two laser diodes by one
scanning movement with said polygonal mirror, and
correct a dot forming position for a terminating edge in a
main scanning direction by an operation of shifting arbitrarily a

phase of picture element clocks; and

a second correction mechanism configured to correct an amount of deviation in data writing position along a vertical scanning direction to be at least approximately one laser diode line width; wherein

said second correction mechanism is configured to be initiated by an external mechanism.

9. The optical writing system according to claim 8, wherein said second correction mechanism is configured to be stopped by said external mechanism.

10. The optical writing system according to claim 8, wherein said second correction mechanism is configured to have an operational mode set by said external mechanism.

11. The optical writing system according to claim 10, wherein said type of original document is selected from the group comprising a character type, photography type, and a mixture of character and photography type, and wherein,

if said type of original document is said character type, said second correction mechanism is configured to enable correction of an amount of deviation in a data writing position in accordance with a first selected difficulty level.

12. The optical writing system according to claim 11, wherein if said type of original document is said photography

type, said second correction mechanism is configured to be placed
in a state comprising one of

disabled, and

enabled to correct an amount of deviation in data

5 writing position in accordance with a second selected difficulty
level.

13. The optical writing system according to claim 12,
wherein if said type of original document said mixture of
10 character and photography type, said second correction
mechanism is configured to be placed in a state comprising one of

disabled, and

enabled to correct an amount of deviation in data

writing position in accordance with a third selected difficulty
15 level.

14. The optical writing system according to claim 13,
wherein if said type of original document is neither said
character type, said photography type, and said mixture of
20 character and photography type, said second correction
mechanism is configured to be placed in a state comprising one of

disabled, and

enabled to correct an amount of deviation in data

writing position in accordance with a fourth selected difficulty
25 level.

15. An image forming apparatus, comprising:

an optical writing system as recited in claim 1; and
an image forming mechanism configured to form visible
images on a sheet by visibly rendering electrostatic latent images
written by said optical writing system.

5

16. The image forming apparatus according to claim 15,
further comprising:

an operation input mechanism configured to selectively input
an operational mode to said image forming apparatus, said
10 operational mode configured to call up said first correction
mechanism and said second correction mechanism from an
exterior to subsequently be operated individually or in
combination.

15

17. An image forming apparatus, comprising:
an optical writing system as recited in claim 8; and
an image forming mechanism configured to form visible
images on a sheet by visibly rendering electrostatic latent images
written by said optical writing system.

20

18. The image forming apparatus according to claim 17,
further comprising:

an operation input mechanism configured to selectively input
an operational mode to said image forming apparatus, said
25 operational mode configured to call up said first correction
mechanism and said second correction mechanism from an
exterior to subsequently be operated individually or in

combination.

19. A method of correcting data written by an optical writing system, comprising the steps of:

5 scanning data of at least two laser diodes by one scanning movement with a polygonal mirror;

correcting a dot forming position of a terminating edge in a main scanning direction by shifting arbitrarily a phase of a picture element clock; and

10 correcting an amount of deviation in a data writing position along a vertical scanning direction to be approximately one line width; and

forming an image, wherein if an image to be formed is not mono-color said step of correcting a dot forming position occurs
15 after said step of correcting an amount of deviation.

20. The method according to claim 19, wherein the setting of said step of correcting an amount of deviation is carried out depending on a type of original document, said type of original
20 document selected from the group comprising a character type, a photography type, and a mixture of character and photography type, wherein

if said type of original document is said character type, said second correction mechanism is configured to enable
25 correction of an amount of deviation in a data writing position in accordance with a first selected difficulty level;

if said type of original document is said photography type,

said second correction mechanism is configured to be placed in a state comprising one of

disabled, and

enabled to correct an amount of deviation in data

5 writing position in accordance with a second selected difficulty level;

if said type of original document said mixture of character and photography type, said second correction mechanism is configured to be placed in a state comprising one of

10 disabled, and

enabled to correct an amount of deviation in data

writing position in accordance with a third selected difficulty level; and

if said type of original document is neither said character
15 type, said photography type, and said mixture of character and photography type, said second correction mechanism is configured to be placed in a state comprising one of

disabled, and

enabled to correct an amount of deviation in data

20 writing position in accordance with a fourth selected difficulty level.

21. The method according to claim 19, wherein said shifting arbitrarily a phase of a picture element clock comprises:

25 shifting based on a scaling error factor of said at least two laser diodes.

22. A computer program product for use with an optical writing system, said computer program product comprising:

a computer usable medium having computer readable program code means embodied in said medium configured to
5 cause a correction of data written by an optical writing system,
said computer readable program code means comprising:

first correction means for

scanning data of at least two laser diode means by one scanning movement with a polygonal mirror means, and

10 correcting a dot forming position for a terminating edge
in a main scanning direction by shifting arbitrarily a phase of a picture element clock;

second correction means for correcting an amount of deviation in a data writing position along a vertical scanning
15 direction to be approximately one line width;

first means for externally calling up said first correction means; and

second means for externally calling up said second correction means.

20

23. A program storage device readable by a machine and embodying a program of instructions executable by the machine to correct data written by an optical writing system, the program storage device including instructions comprising:

25 instructions to scan data of two laser diodes by one scanning movement with a polygonal mirror;

instructions to correct a dot forming position for a

terminating edge in a main scanning direction by shifting
arbitrarily a phase of a picture element clock; and

instructions to correct an amount of deviation in a data
writing position along a vertical scanning direction to be
5 approximately one laser diode line width.

24. An optical writing system, comprising:
at least two laser diode means;
a polygonal mirror means;
10 a first correction means including
means for scanning data of said two laser diode means
with said polygonal mirror means, and
means for correcting a dot forming position of a
terminating edge in a main scanning direction, including means
15 for shifting arbitrarily a phase of a picture element clock; and
a second correction means including means for correcting an
amount of deviation in a data writing position along a vertical
scanning direction to be approximately one laser diode line
width; wherein
20 said first correction means includes means for being
started from a first control means exterior to said optical writing
system.

25. The optical writing system according to claim 24,
25 wherein said second correction means includes means for being
started from a second control means exterior to said optical
writing system.

26. The optical writing system according to claim 25,
wherein said second control means includes means for stopping
said second correction means from said second control means.

5

27. The optical writing system according to claim 25,
wherein said second correction means and said first correction
means are configured to be controlled separately from each other.

10 28. The optical writing system according to claim 27,
wherein said first correction means includes means for being
stopped from said first control means.

29. The optical writing system according to claim 24,
15 wherein said means for shifting arbitrarily a phase of a picture
element clock includes means for shifting based on a scaling
error factor of said at least two laser diode means.

30. The optical writing system according to claim 29,
20 wherein the scaling error factor is selectively input through an
external input means.

31. An optical writing system, comprising:
at least two laser diode means;
25 a polygonal mirror means;
a first correction means including
means for scanning data of the two laser diode means by

one scanning movement with said polygonal mirror means, and
means for correcting a dot forming position for a
terminating edge in a main scanning direction and including
means for shifting arbitrarily a phase of a picture element clock;
5 and

a second correction means including means for correcting an
amount of deviation in data writing position along a vertical
scanning direction to be at least approximately one laser diode
line width; wherein

10 said second correction means includes means for being
started from a control means external to said optical writing
system.

32. The optical writing system according to claim 31,
15 wherein said second correction means includes means for being
stopped from said control means external to said optical writing
system.

33. The optical writing system according to claim 31,
20 wherein said second correction means includes means for having
an operational mode set, in accordance with a type of original
document, from said control means external to said optical
writing system.

25 34. The optical writing system according to claim 33,
wherein said type of original document is selected from the group
comprising a character type, photography type, and a mixture of

character and photography type, and wherein,

if said type of original document is said character type, said second correction means includes means for enabling correction of an amount of deviation in a data writing position in accordance with a first selected difficulty level.

35. The optical writing system according to claim 34, wherein if said type of original document is said photography type, said second correction means includes means for being placed in a state comprising one of disabled, and enabled to correct an amount of deviation in data writing position in accordance with a second selected difficulty level.

15

36. The optical writing system according to claim 35, wherein if said type of original document said mixture of character and photography type, said second correction means includes means for being placed in a state comprising one of disabled, and enabled to correct an amount of deviation in data writing position in accordance with a third selected difficulty level.

20

37. The optical writing system according to claim 36, wherein if said type of original document is neither said character type, said photography type, and said mixture of

25

character and photography type, said second correction means
includes means for being placed in a state comprising one of
disabled, and
enabled to correct an amount of deviation in data
5 writing position in accordance with a fourth selected difficulty
level.